CONVERGENCE OR DIVERGENCE: The data from GREECE

Mavroudeas Stavros
Syriopoulos Costas
Department of Economic Studies
University of Macedonia
156 Egnatia St.,
P.O. Box 1591, 54006, Thessaloniki
Greece.
tel.: +30 +31 -891779
+30 +31 -891764
fax:+30 +31 -891750
e-mail: smavro@macedonia.uom.gr
cosi@macedonia.uom.gr

Journal of Applied Business Research vol.14 no.1

ABSTRACT

The convergence hypothesis is a popular tenet in modern discussions in macroeconomics and regional economics. It derives from the very fundamental properties of the neoclassical single-sector growth model, and its assumption of diminishing returns to scale. Following this theoretical framework a number of empirical tests (σ or unconditional β or conditional β-convergence) has been developed. This paper tests unconditional and conditional β-convergence for the Greek economy. Three issues are being considered: (i)if there is regional convergence, (ii) if there is a North-Southern divide, (iii) if Greece is converging with the other economies taking part in the European integration project. Our empirical results reject the convergence hypothesis in all cases. These findings, together with similar findings for many other economies, pose significant problems for the theoretical assumptions of the neoclassical growth model with exogenous technical change.

1. Introduction: theory and evidence

The convergence hypothesis is a popular tenet in modern discussions in macro and regional economics. It contends that there is a negative relationship - after controlling for some set of variables - between initial income level and growth rate. Therefore, poor countries or regions tend to grow faster than developed ones and, subsequently, a convergence process is operating leading to similar levels of development. This hypothesis is derived, usually, from the very fundamental properties of the Solowian neoclassical single-sector growth model, and its typical assumptions of diminishing returns to capital, exogenous technological progress, full employment, a fixed relation between the labour force and population and exogenous growth of population. The neoclassical growth model for closed economies, as presented by Solow (1956), suggests that the per capita growth rates tend to be inversely related to the starting level of output or income per capita. Hence, if economies are similar with respect to preferences and technology, then poor

economies grow faster than rich ones, promoting convergence in levels of per capita product and income. This thesis has been extended for the case of open economies. In the case of a closed economy convergence among its regions derives from (a) the diminishing returns to capital, (b) the mobility of capital and labour across regions and, (c) the gradual spread of technology. All these hypotheses can be easily justified on the basis of stylised facts for a single economy and for the long-run period[1]. The crucial assumption is the first, since it represents one of the very fundamental properties of the neoclassical growth model, whereas the others are being added as second grade - not necessary - assumptions. Because of the diminishing returns to capital - and given similar determinants of the steady state (capital accumulation rate, population growth rate, preferences etc.) - regions with a lower level of capital and output exhibit a greater rate of growth so as to catch up the more advanced regions (exhibiting smaller rates) and to converge to the steady state values. Put it simply, as capital accumulates its marginal product falls and so does the incentive to invest. Assuming capital mobility, capital flows to the less developed regions and the growth rate in the developed regions falls as the capital-labour ratio falls. The extension of the convergence hypothesis for different economies requires additional assumptions securing the open character of these economies. Therefore, the mobility of factors of production and the diffusion of technologies should be accounted for. This version of the convergence hypothesis has been branded by Baumol (1994) the “common forces” model.

The same convergence thesis has been advanced also within the context of the Technological Catching Up Hypothesis (Baumol (1986) or “contagion” model (Baumol (1994), i.e. that economies that are technologically backward may experience large jumps in productivity by adopting already-existing advanced technology. It should be noted that in this case the theoretical framework changes. Institutional (eg.education) and discrete technological (e.g. different technological policies) factors play a more significant role. Furthermore, Baumol (1986) recognises different clusters of countries and different results with regards to convergence (convergence clubs etc.)[2]. The three clusters of the industrialised, intermediate and centrally planned countries exhibited, for the period 1950-80, a convergence trend. However, the cluster of poorer less underdeveloped countries did not exhibited such a trend. Additionally, there has been little convergence among the groups.

The empirical procedures used to test the convergence hypothesis are almost the same for both the two beforementioned theoretical frameworks. Based on the Solowian single-sector growth model, three types of convergence have been recognized.

(1) Sigma convergence (σ-convergence) studies the cross section dispersion of per capita income (or productivity) levels. If the dispersion decreases over time, then per capita income levels tend to converge. This test has been criticised as crude and not conforming fully with the theoretical properties of the neoclassical growth model.

(2) Absolute beta convergence (β-convergence) is a cross section regression of time averaged growth rates on initial levels of per capita GDP. If there is a negative regression coefficient on the initial income level then a process of convergence is operating. This test takes

1

into account the initial levels of growth. However, it does not account fully for the determinants of the steady state.

(3) Finally, conditional β-convergence looks at the cross section regression coefficient of time averaged growth rates on initial incomes but also of a number of additional explanatory variables, such as the capital accumulation rate and the population growth rate. Conditional β-convergence is considered a more appropriate test for the neoclassical growth model.

Following the formalisation introduced by Barro and Sala-i-Martin (1991), in order to test for β-convergence the following non-linear regression is used:

$$(1/T)\ (\ln y_{0+T,i} - \ln y_{0,i}) = c - (1/T)\ (1-e^{-\beta t})\ \ln y_{0,i} + e_{0+T,i} \qquad (1)$$

where $\ln y_{0+T,i} - \ln y_{0,i}$ is economy 's GDP per capita between 0 and T, $\ln y_{0,i}$ is the logarithm of economy 's GDP per capita at time 0, or the initial level of per capita GDP, t is a linear time trend and $e_{0+T,i}$ is the disturbance term.

According to Barro and Sala-i-Martin (1991), *conditional* β-convergence should be distinguished from *absolute* β-convergence. A set of economies displays *conditional β-convergence*, if the partial correlation between growth and initial income is negative. In other words, if we run a cross-sectional regression of growth of initial income holding constant a number of additional variables, and we find that the coefficient of initial income level is positive, then the economies in the data display conditional β-convergence. If the coefficient of initial income is positive in a univariate regression -like regression (1)- then we say that the data set displays unconditional or absolute β-convergence. For conditional β-convergence, Barro and Sala-i-Martin (1991) propose the estimation of the following regression:

$$(1/T)\ (\ln y_{0+t,i} - \ln y_{0,i}) = c - (1-e^{-\beta t})\ \ln (y_{0i}) + \psi X_{it} + e_{0+T,i} \qquad (2)$$

where X_{it} is a vector of variables that proxy for, and hold constant, the steady state. The only difference with (1), which tests for unconditional or absolute convergence, is the presence of the steady state vector X_{it}.

Although the neoclassical economic theory predicts convergence, the empirical evidence has been a subject for debate. Baumol (1986) was the first who examined and conclude in favour of convergence, De Long (1988) contradicted Baumol's results, and after them a large body of literature appeared (Barro and Sala-i-Martin (1991), Mankiw, Romer and Weil (1992) etc.).

Barro and Sala-i-Martin (1991) employ equation (2), which is in accordance with the neoclassical framework of analysis, in order to test empirically the existence or not of convergence. The overall evidence of their analysis weighs heavily in favor of convergence, suggesting that the results of the neoclassical growth models are valid. Mankiw, Romer and Weil (1992) evidence, indicates that, when holding population growth and capital accumulation constant, countries converge about the rate the augmented Solow model predicts. Finally, other recent studies upon the subject of convergence support the theory of the neoclassical model (Coulombe and Lee 1995 for the case of Canada and Cashin 1995 for Austalia) .

On the other hand, Mauro and Podrecca (1994) examined empirically the convergence hypothesis for the case of Italian regions. Their findings opposed those of Barro and Sala-i-Martin (1991). Also, Pagano (1993) studying productivity or income convergence in the European Community countries suggests that the process of convergence stops or even reverse with the oil shocks of 1970's. Neven and Gouyete (1994) suggest that there exist dualism between Southern

and Northeastern regions of the European Community, and Button and Pentecost (1995) testing the convergence in the European Union regional economies find no significant convergence across those regions in the 1980's.

2. Issues of convergence in the economy of Greece

This paper tests unconditional and conditional β-convergence for the Greek economy. Three issues are being considered. Firstly, whether there is a regional convergence in the Greek economy. Secondly, given the interest in the possibility of a north-south divide in Greece, whether there is convergence between Southern and Northern Greece. Finally, whether the Greek economy is converging with the other European economies taking part in the European integration project.

The first issue is straightforward: it begs the question whether the Greek economy exhibits the properties and the results hypothesized by the neoclassical growth model.

The second issue refers to a nowadays popular debate in Greece. After the collapse of the Eastern block and the liberalisation of the other Balkan economies it has been voiced from many sides that there is a structural change in the Greek economy. Before, the South - mainly represented by the Athens area (the so-called economic and industrial polypus of Athens) - was the economic heartland of the country. The northern areas were basically dedicated to agriculture. Now - the argument maintains - after the crisis of the '70s the economic and industrial basis of the South has become aged and deindustrialisation (because of the crisis) is taking its toll. On the other hand, the northern areas - boosted also by opportunities in the newly-opened northern neighbouring countries - tend to become the new economic centre.

The third question considers the relationship with the European integration project. Greece takes part in that project with the expectation of converging with the more advanced Western European countries. This assumption - i.e. convergence of the European economies - has been supported by Barro and Sala-i-Martin (1991). However, all present day debates focus upon the real divergence among European economies. This fact has been contrasted to the Maastricht treaty requirements which emphasise nominal convergence. The problem is more grave since the EEC - and now the EU - has created specific funds in order to support the less developed mostly Southern European countries to improve their infrastructure and productive basis. These resources did not represent a significant amount in European terms - and after all the EEC's budget is extremely limited - but they do represent significant resources in terms of the particular targeted economies. Greece has received from European Union resources equivalent to 5% of the GDP over 6 years (Community Support Framework I) and funds equivalent to 6%-7% of the Gross Regional Product (Integrated Mediterranean Programmes). It is also estimated that the second Community Support Framework will contribute resources equivalent to 5%-6% of the annual Greek GDP over 6 years (1994-1996). However, these resources seem to fail to produce the expected outcome. So, the second issue refers to the convergence or divergence of Greece with the other European economies.

3. Empirical Results

In our empirical analysis we estimate regressions (1), (2) to test for the different types of β-convergence across the Greek regions.

4.1 Testing for unconditional β-convergence

As a first step, we investigate whether there exist "Barro and Sala-i-Martin type" of unconditional β-convergence across Greek regions. For this purpose we estimate empirically, using the technique of non-linear least squares, the (1) regression (Table 1). We estimated this regression for the sub periods before the entrance of Greece in the European Community (EC), after the entrance of Greece in the EC, and for the whole period.

[TABLE 1]

The β coefficient, although is positive, is never statistically significant different from zero. In the same table we present the results of the estimation of the same basic equation (1) with the addition of two explanatory variables, the shares of GDP in the manufacturing and industrial sector for each region (met_i and ind_i respectively). These two explanatory variables are used on the grounds that this should help to stabilize the β coefficient across the different sub-periods, by holding constant the shocks which might affect groups of regions in common, or those correlated with initial per capita income. In our estimation the inclusion of these additional variables does not improve our estimates and thus does not appear to play a significant role.

Looking for a possible north-south divide, we estimate again regression (1), this time including an additional North/South dummy variable (N/S) on the right hand side. This dummy variable takes the values of 1 for Southern regions and 0 for Northern regions as a proxy for different steady state values of per capita income between North and South. Thus, a positive estimate of the β coefficient in this case would indicate that there exist β-convergence within each area, rather than convergence across all Greek regions of convergence between North and South (Table 2).

[TABLE 2]

The estimates show little improvement with respect to the previous results, even if we add structural variables as before. The results are not conclusive because we do not have statistically significant estimates for the coefficient of convergence as the values of t-statistics reveals. Thus, the hypothesis of absolute β-convergence across Greek regions is clearly rejected.

4.2 Testing for conditional β-convergence.

The poor statistical performance of the previous statistical regressions (tables 1 and 2) might be due to the fact that we have not explicitly controlled for the cross-regional variations of the steady states towards which each region is supposed to converge. In other words we have not tested for conditional β-convergence.

The concept of conditional β-convergence, suggests the estimation of a multiple regression like (2). In our empirical analysis as steady state proxy variable we initially use the share of investment on GDP, which is the most important factor that can lead the Greek regions to convergence (Tables 3,4)

[TABLE 3, 4]

The coefficient of convergence β is always positive as the neoclassical theory predicts but it is never significantly different from zero, with the exception of the last case and specifically for the period after the introduction of Greece in the EC (1981-1996). The latter result implies conditional convergence within the Northern and the Southern part of Greece separately, supporting the popular view prevailing in Greece about the divergence between North and South. Thus, our results do not support the predictions of the neoclassical growth model. Finally, maybe the most important thing is that the coefficient of the share of investment on GDP is negative, probably implying ineffective investment planning for Greece.

5. Concluding Remarks

The present paper examines the issue of convergence across Greek regions, following the theoretical basis of the neoclassical model of economic growth. Our empirical results are not in accordance with the neoclassical model. In all three issues under examination the hypotheses of the model are being negated. This rejection has both theoretical and empirical connotations. We contend that it is the model - and the theory underlying it - that cannot grasp reality.

On the theoretical aspect, both the “common forces” and the “contagion” model set out to verify a theoretically presupposed convergence. This is stronger in the case of the first model - deriving from the constitutive properties of the neoclassical growth model. These properties have been rightly criticised as erroneous. The Cambridge, UK critique (Garegnani (1970) etc.) has proved that the neoclassical theory of distribution, and thereby the aggregate production function, are invalid[3]. Consequently, the use of the latter in studying convergence brings potential bias to the analysis. Additionally, the diminishing returns to capital assumption has been also criticised as invalid. In the case of the “contagion” model the same theoretical criticisms apply.

Regarding the empirical reality, both models fail to explain why a vast number of countries fail to not only converge but even to follow the more developed ones. This failure is less forceful in the case of the “contagion” model since it can accept the existence of such a host - or hosts - of countries; but it cannot explain why. So absolute convergence is contradicted by the failure of poorer countries (and regions) to converge. But even conditional convergence does not always occur, since it comes about within some, but not all “clubs” of countries (Baumol, 1986). Additionally, even when convergence applies, it holds for some periods and not for others. Finally, the convergence theory cannot explain why the productivity ranking of the follower countries has changed over time even when they converge toward the productivity level of the leader.

All these point out to the fundamental limitations of both convergence models. In the case of the typical Solovian model the assumption of non-interdependence between advanced and backward economies lead to treat them as being driven by the same common forces towards a common steady state. The rate of growth of the former appear not to affect the latter. Moreover, trade relations, obstacles to the technological innovation and world economic hierarchies are absent making the model extremely unrealistic. Finally the exogeneity of technical progress is a well known deficiency of this theory.

In the case of the contagion model the unrealistic assumption of common forces (in the form of common technology) is dropped. In advanced countries growth is led by technological innovation, whereas in backward countries it is led by imitation. Convergence depends upon the rate of technological transfer from advanced to backward countries. However, contrary to the theory, convergence is not a certainty but a potentiality. As Abramovitz (1994) admits, the existence of a process of convergence is not automatic but depends upon social capabilities (factors limiting the diffusion of knowledge, rate of structural change, institutional forms etc.). Despite its greater sophistication, the contagion model fails to incorporate properly all these factors.

Last, but not the least, the convergence thesis cannot address the concerns of policy-makers interested in regional development. Traditional cross-section regressions on the convergence equation cannot solve issues such as that of the nature of interactions between different countries (regions). Or, if currently leading economies are always the first to innovate technologically and whether new technology filters passively to poorer economies. Also, it fails to understand agglomeration processes and the institutional and transactions costs' dimension of regional development.

The abovementioned theoretical limitations of the convergence thesis are verified by the particular characteristics of the Greek economy. Neither the common forces nor the contagion mechanism seem to operate. Economic activity was unevenly distributed throughout the post-WW.II era, being primarily concentrated in the prefectures of Athens and Piraeus, and to a lesser extent Thessaloniki (Kottis (1980)). This is verified by the strong urbanisation trends that began in the 1950s and continue to exist. Furthermore, it is telling that there is no convergence neither in periods of robust development (1960-73) nor in periods of recession (1973-1996) and despite significant sectoral transformations of the economic structure. Developed regions seems to offer undeniable advantages with regard to infrastructure. Another well-documented reason is state's infamous overcentralisation. Economic activities closer to the seat of government enjoyed better relations with the state machine. Additionally, regional policies towards a more even spatial distribution of economic activities proved to be ineffective. Their incentives system was characterised by innate weaknesses and contradictions (related to vested interests)4.

The same considerations hold for the two main developmental poles of the Greek economy, Southern and Northern Greece. Despite recent developments and the increased economic significance of Northern Greece, the Southern area exhibits a more or less steady lead, since it represents those regions that were developed first and foremost the Athens area. On the other hand aspirations for a more ambitious role for Northern Greece (and particularly the Thessaloniki area), because of the opening of the Balkan economies have not been vindicated.

Historical evidence shows that in economies, instead of convergence, divergence and stratification reigns. The issue of both cross-national and regional convergence or divergence can be studied more properly from the premises of an "uneven development" model. Such an approach should incorporate the historical and social dimension and could explain patterns of development both within the Greek economy as well as between Greece and the other European countries. Within this perspective technical change should be theorised as endogenous and subject to - but also a means of - competition. This field is open for future research.

6. Suggestions for future research

Having presented the theoretical and methodological critique of the convergence hypothesis, there is still room for further testing it in future research. The definitions of Bernard and Durlauf (1995) lead naturally to the use of cointegration techniques in testing this hypothesis. Therefore, it would be interesting to compare our present results with those derived from the use of time series. Moreover, since the division of Greece in regions is merely administrative, it might be useful to test the convergence hypothesis in relation to the prefectures of the country.

ENDNOTES

1. For example, there is an extensive literature - not only in heterodox (institutionalist etc.) traditions about the segmentation of labour markets, local labour markets and, hence, a relative immobility of labour. However, in the longer long-run - and from the premises of a single-sector model (i.e. not accounting for different types of capital and labour) - it can be assumed that any such immobility can be smoothed down.
2. Baumol's concept of b-convergence has been criticised (see Romer (1986, 1989) for depending heavily upon the particular sample used and, thus, holding only for group of economies with similar steady state determinants.
3. The neoclassical model is inconsistent because it neglects the interdependence of income distribution and the value of the capital stock. In this model the value of the capital stock cannot be known until the profit rate is known, but the profit rate (equal to the marginal product of capital) is unknowable without knowing the value of the (aggregate) capital stock. It has been shown that because of this circularity, the aggregate production function is valid only in a one-commodity world or when the capital-labour ratios and technologies are equal in all sectors.
4. For a detailed analysis, with emphasis on industry, see Labrianidis-Papamichos (1990).

REFERENCES

1. Abramovitz M., "Catc-up and convergence in the postwar growth boom and after", in Baumol et al., "Convergence of productivity; Cross-national studies and historical evidence", Oxford University Press, 1994
2. Barro, R.J. and X. Sala-i-Martin, "Convergence Across States and Regions", Brookings Papers on Economic Activity no.1, pp. 107-182, 1991.
3. Baumol, W., "Productivity, Growth, Convergence and Welfare: What the Long-Run Data Show", American Economic Review, 76, 5, pp. 1872-1085, 1986.
4. Baumol W., "Multivariate growth patterns: contagion and common forces as possible sources of convergence" in Baumol W. et al. (eds.), "Convergence of Productivity: Cross-National Studies and Historical Evidence", Oxford University Press, 1994
5. Bernard and Durlauf (1995)
6. Button K. and E. Pentecost, "Testing for Convergence of the EU Regional Economies", Economic Inquiry, 33, (4), pp. 664-671, 1995.
7. Cashin P., "Economic Growth and Convergence Across the Seven Colonies of Australia: 1861-1991", Economic Record, 71, (213), pp. 132-144, 1995.

8. Coulombe S. and F. Lee, “Convergence Across Canadian Provinces, 1961 to 1991”, Canadian Journal of Economics, 28 (4a), pp. 886-898, 1995.
9. De Long B., “Productivity, Growth, Convergence and Welfare: Comment” American Economic Review, Vol. 78, n. 5, pp. 1138-1154, 1988.
10. Kottis G., «Industrial decentralisation and regional development», Institute of Economic and Industrial Research, Athens
11. Labrianidis L., Papamichos N., «Regional distribution of industry and the role of the state in Greece», Environment and Planning C, vol.8, 1990.
12. Mankiw N.G., D. Romer and D.N. Weil, “A Contribution to the Empirics of Economic Growth”, Quarterly Journal of Economics, 107, pp. 407-437, 1992.
13. Mauro L. and Podrecca E., “The Case of Italian Regions: Convergence or Dualism?”, Economic Notes, 23 (3), pp. 447-472, 1994.
14. Neven D. and Gouyette C., “Regional Convergence in the European Community”, Cahiers de Recherches Economiques, No. 9311, Working Paper, Universite de Lausanne, 1994.
15. Pagano P., “On Productivity Convergence in the European Community Countries: 1950-1988”, Giornali degli Economisti e Annali di Economia, 52 (7-9), pp. 389-401, 1993.
16. Romer P.M., “Increasing Returns and Long-Run Growth”, Journal of Political Economy, vol.94 no.5, pp.1002-10037, 1986.
17. Romer P.M., “Capital Accumulation in the Theory of Long-Run Growth”, in Barro R.J. ed., “Modern Business Cycle Theory”, Harvard University Press, 1989.
18. Solow R., “A Contribution to the Theory of Economic Growth”, Quarterly Journal of Economics, 70, pp. 65-94, 1956.

TABLES

Table 1: Testing for Conditional Convergence

Model : $(1/T)\ (\ln y_{0+T,i} - \ln y_{0,i}) = c - (1/T)\ (1-e^{-\beta t})\ \ln y_{0,i} + e_{0+T,i}$

	Basic Equation		Basic Equation with Structural Variables			
period	β	R^2	β	met	ind	R^2
1971	0,0006	0,05	0,0002	-0,02	0,001	0,51
1981	(0,8)		(0,5)	(-2,8)	(0,09)	
1981	0,0006	0,02	0,001	-0,02	-0,02	0,76
1996	(0,5)		(1,3)	(-4,6)	(-3,7)	
1971	0,001	0,05	0,001	-0,04	-0,02	0,55
1996	(0,7)		(0,8)	(-3,18)	(-1,12)	

Table 2 : Testing for Conditional Convergence with N/S dummy

Model : $(1/T)\ (\ln y_{0+T,i} - \ln y_{0,i}) = c - (1/T)\ (1-e^{-\beta t})\ \ln y_{0,i} + e_{0+T,i}$

	Basic Equation			Basic Equation with Structural Variables				
period	β	N/S	R^2	β	met	ind	N/S	R^2
1971	-0,0006	0,009	0,12	0,0002	-0,02	-0,02	0,00	0,76
1981	(-0,4)	(0,9)		(0,19)	(-3,57)	(-3,4)	(0,00)	
1981	-0,002	0,02	0,17	0,001	-0,02	0,001	0,00	0,51
1996	(-0,9)	(1,35)		(0,54)	(-2,28)	(0,09)	(0,00)	
1971	-0,003	0,02	0,21	0,0007	-0,04	-0,02	0,003	0,55
1996	(-0,92)	(1,45)		(0,18)	(-2,3)	(-1,0)	(0,14)	

Table 3 : Testing for Conditional Convergence

Model : $(1/T)\ (\ln y_{0+t,i} - \ln y_{0,i}) = c - (1-e^{-\beta t})\ \ln (y_{0i}) + \psi X_{it} + e_{0+T,i}$

	Basic Equation			Basic Equation with Structural Variables				
period	β	s_i	R^2	β	s_i	met	ind	R^2
1971	0,0007	-0,0002	0,09	0,0002	-0,001	-0,01	-0,02	0,76
1981	(0,82)	(-0,6)		(0,41)	(-0,41)	(-2,9)	(-3,0)	
1981	0,0008	-0,001	0,46	0,0009	-0,008	-0,01	-0,01	063
1996	(0,86)	(-2,8)		(0,96)	(-1,63)	(-1,7)	(-0,7)	
1971	0,001	-0,001	0,35	0,0006	-0,001	-0,02	0,046	0,68
1996	(1,08)	(-2,1)		(0,48)	(-1,8)	(-1,3)	(-2,1)	

Table 4: Testing for Conditional Convergence with N/S dummy

Model : $(1/T)\ (\ln y_{0+t,i} - \ln y_{0,i}) = c - (1-e^{-\beta t})\ \ln (y_{0i}) + \psi X_{it} + e_{0+T,i}$

Basic Equation with Structural Variables with N/S dummy

period	β	s_i	met	ind	N/S	R^2
1971	0,0005	-0,0002	-0,01	-0,02	-0,002	0,77
1981	(0,35)	(-0,49)	(-2,7)	(-2,8)	(-0,2)	
1981	0,004	-0,001	-0,01	-0,01	-0,022	063
1996	(1,65)	(-2,22)	(-2,14	(-1,18)	(-1,41)	
1971	0,0033	-0,001	-0,02	0,048	-0,017	0,68
1996	(0,91)	(-1,9)	(-1,4)	(-2,1)	(-0,8)	